

CLAIMS

1. A circuit for performing device communication, comprising:

a first state machine defined by circuitry configured to perform device communication, the first state machine circuitry being further configured to enable deviation from the device communication, the first state machine circuitry being further configured to obtain a status of the device communication to enable a continuation of the device communication; and

a second state machine defined by circuitry configured to monitor the device communication to be performed by the first state machine, the second state machine circuitry being further configured to provide the status of the device communication to the first state machine to enable the continuation of the device communication.

2. A circuit for performing device communication as recited in claim 1, wherein the first state machine includes circuitry configured to receive a request to perform a task other than the device communication.

3. A circuit for performing device communication as recited in claim 2, wherein the first state machine includes circuitry configured to recognize the task other than the device communication as having a higher priority than the device communication and activate the first state machine circuitry configured to enable deviation from the device communication.

4. A circuit for performing device communication as recited in claim 1, wherein the first state machine circuitry is configured to continue the device

communication to an extent possible when deviation from the device communication is enabled.

5 5. A circuit for performing device communication as recited in claim 4,
wherein the extent possible corresponds to a state in the device communication at which
the first state machine is required to provide a response to continue the device
communication.

10 6. A circuit for performing device communication as recited in claim 1,
wherein the second state machine circuitry is configured to perform the device
communication in accordance with a protocol to be followed by the first state machine.

15 7. A circuit for performing device communication as recited in claim 1,
wherein the device communication follows a Serial AT Attachment (SATA) protocol.

 8. A method for performing device communication, comprising:
operating a first state machine to perform a frame transfer operation;
operating a second state machine to monitor a status of the frame transfer
operation being performed by the first state machine;
20 operating the first state machine to perform a task other than the frame transfer
operation, the first state machine deviating from the frame transfer operation to perform
the other task; and
referring to the second state machine to determine a current state of the frame
transfer operation.

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9. A method for performing device communication as recited in claim 8, further comprising:

operating the first state machine to continue the frame transfer operation from the current state as determined by referring to the second state machine.

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10. A method for performing device communication as recited in claim 8, wherein the frame transfer operation is performed in accordance with a Serial AT Attachment (SATA) protocol.

10 11. A method for performing device communication as recited in claim 8, further comprising:

receiving a request to operate the first state machine to perform a task other than the frame transfer operation.

15 12. A method for performing device communication as recited in claim 11, further comprising:

identifying the task other than the frame transfer operation as having a higher priority than the frame transfer operation, the identifying causing the first state machine to be operated to perform the task other than the frame transfer operation.

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13. A method for performing device communication as recited in claim 8, further comprising:

continuing to perform the frame transfer operation to an extent possible while the first state machine deviates from the frame transfer operation to perform the other task.

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14. A method for performing device communication as recited in claim 13, wherein the extent possible corresponds to a state in the frame transfer operation at which the first state machine is required to provide a response to continue the frame transfer operation.

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15. A computer readable media containing program instructions for performing device communication, comprising:

program instructions for operating a first state machine to perform a frame transfer operation;

10 program instructions for operating a second state machine to monitor a status of the frame transfer operation being performed by the first state machine;

program instructions for operating the first state machine to perform a task other than the frame transfer operation, the first state machine deviating from the frame transfer operation to perform the other task;

15 program instructions for referring to the second state machine to determine a current state of the frame transfer operation.

16. A computer readable media containing program instructions for performing device communication as recited in claim 15, further comprising:

20 program instructions for operating the first state machine to continue the frame transfer operation from the current state as determined by referring to the second state machine.

17. A computer readable media containing program instructions for
25 performing device communication as recited in claim 15, wherein the program

instructions for operating the first state machine to perform frame transfer operation include program instruction for performing the frame transfer operation in accordance with a Serial AT Attachment (SATA) protocol.

5 18. A computer readable media containing program instructions for performing device communication as recited in claim 15, further comprising:

 program instructions for receiving a request to operate the first state machine to perform a task other than the frame transfer operation.

10 19. A computer readable media containing program instructions for performing device communication as recited in claim 18, further comprising:

 program instructions for identifying the task other than the frame transfer operation as having a higher priority than the frame transfer operation, the identifying causing the first state machine to be operated to perform the task other than the frame
15 transfer operation.

 20. A computer readable media containing program instructions for performing device communication as recited in claim 15, further comprising:

 program instructions for continuing to perform the frame transfer operation to an
20 extent possible while the first state machine deviates from the frame transfer operation to perform the other task.

 21. A computer readable media containing program instructions for performing device communication as recited in claim 20, wherein the extent possible

corresponds to a state in the frame transfer operation at which the first state machine is required to provide a response to continue the frame transfer operation.